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AUTHOR Mydlarski, Donna
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ABSTRACT

This paper describes the experience of setting up a computer assisted learning (CAL) program, the implementation of the program, and the way it is currently being integrated into the curriculum. The CAL program was developed by a team that included a subject specialist, specialists in computer applications and instructional design, a computer programmer, and an evaluation and measurement consultant. Planning the program involved (1) attention to decisions about whether to use CAL for mainline or adjunct instruction, (2) the kind of courseware, (3) which aspects of the language to teach, and (4) whether to use a tutorial mode or a drill and practice mode. The implementation of the program involved mainly getting financial support and the support of the faculty. The program is being integrated into the introductory French courses in two ways. In one approach, students are encouraged to use CAL in addition to their regular instruction; in the other, students use CAL as part of the course load. A preliminary evaluation of the two experiments indicated that the CAL lessons should have been better integrated into the course work. A number of mainly positive and neutral comments by students on the initial use of CAL are provided. Generally, student attitudes toward learning French either improved or stayed the same as a result of the CAL experience. (AMH)

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So You Want to Do Your Own CAL Program: the Experience at the University of Calgary

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DONNA MYDLARSKI*
University of Calgary

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Computers in education are by no means the exclusive domain of mathematicians. With a minimal amount of computer knowledge, language teachers themselves can have access to the computer as a tool for the enhancement of teaching/learning. Even humanists, uninitiated as they may seem to "modern mysteries", can learn to use computers. As the French say, *ce n'est pas sorcier.* It is hoped that the experience gained in the Departement of Romance Studies at the University of Calgary will prove beneficial to language departments which are contemplating or starting a computer assisted learning (CAL) program.

Slightly over two years ago, naive but eager to become involved, I was faced with the need to learn about computers. In my case, this meant enrolling in a course in computer applications. As a French literature graduate specializing in language teaching, I knew nothing about those languages called BASIC, APL or PASCAL, although I thought it was promising that a computer language should be named PASCAL. It also meant becoming familiar with research in CAL and finding out what was being done elsewhere. Since working in isolation seemed inefficient and unproductive, a team was formed including a subject specialist, specialists in computer applications and instructional design, a computer programmer and an evaluation and measurement consultant. All decisions of an educational nature are made by the subject specialist, an experienced language teacher who relies on colleagues in her own department and elsewhere for feedback and criticism.

* I wish to acknowledge the assistance given by the Office of Institutional Research, University of Calgary, in analyzing the student questionnaires.

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Planning

The choice of courseware and hardware are closely related and depend to a large extent on the instructional aims of the overall language program. In our case, the choice of courseware ultimately determined the type of microcomputer that would be purchased. Did we want to use existing courseware or develop our own? The experience of others had warned us of the huge time commitment involved in starting from scratch. A lot of the courseware viewed either did not meet our expectations or was not appropriate to the Canadian context. Some was considered pedagogically sound but inaccessible due to the programming language used. Courseware written in BASIC was deemed desirable because it is a language produced by the computer industry and is widely available on a variety of computers appropriate for CAL (Hallworth & Brebner, 1980).

Some decisions had to made:

1. Did we want to use CAL for adjunct or mainline instruction? Adjunct instruction is intended to supplement the materials supplied by the teacher. Mainline instruction is intended to teach a substantial piece of curriculum without help from any other source.

2. Did we intend to present new material through CAL?

3. Did we wish to use a tutorial mode, drill and practice, or a combination of the two? In tutorial mode, information is presented; the student demonstrates either understanding or the need for further explanation. In drill and practice, a problem is printed, the student responds, the computer then analyzes the answer and gives either positive reinforcement or hints enabling correction.

4. Which aspects of the language did we plan to teach through CAL?

5. What specific topics should be covered by CAL?

Focusing our attention on these questions, we elaborated the following framework:

1. We perceive CAL as an aid, not the means, to language instruction. It is therefore an adjunct or accessory to the regular language courses at the Unive.sity .

2. No new material is presented on the computer. Rather, its function is to provide practice, review and remedial assistance.

3. The thrust of the program is drill and practice exercises. A tutorial component is an available option that students are strongly encouraged to choose for review and reinforcement.

4. Written skills such as grammar, vocabulary, reading, syntax and mechanics of language are delegated to the computer, leaving the more communicative and creative aspects to the classroom teacher. Because we felt we should begin modestly, the use of audio is not an immediate goal but we hope to grow into it.

5. The topics selected are those covered by our current textbook (*Le français international*). We decided however that the content should be independent of any given manual due to the traditionally short life span of language texts within our department. Lessons are also independent of each other to enable us to rearrange the order if desired.

Finally, suitable courseware of sufficiently high quality was located in the tri-university CLEF project in Ontario (Western Ontario, Guelph and Waterloo). It was mutually decided that since neither project was moving as fast as hoped for, we would work together in authorizing and exchanging lessons. We believe that the high cost of courseware development is justified only if the material can be shared by other institutions.

The team also had to decide whether it was feasible to use the computer resources already on campus or whether our needs were sufficiently different to warrant the acquisition of our own computers. Having heard horrendous stories about various units on campus vying for precious on-line time on the University's mainframe computer and about students queuing up, we sought an alternative. It was felt that if our students encountered logistic problems, they simply would not use the computers. The Open University experience confirms that access is a major concern and that, in the students' perception, any benefits obtained through CAL are outweighed by problems associated with its use (Jones & O'Shea, 1981). These findings support the view taken by Roger Kenner and Griff Richards (1981) about the necessity of "goof-proofing" the system. At the University of Calgary we are fortunate in having another, smaller computer (PDP 11/70) dedicated to CAL. It was decided to use microprocessors as terminals linked

to the 11/70 because of its high reliability and rapid file retrieval, and because we wanted to keep cumulative records on our students and programs. Eventually, we hope to move to a multi-user microcomputer system. We also consider it important to be able to use the micros as "stand alones", to permit a wider distribution. For example, we placed one of them in a local high school for a few weeks to obtain some feedback from another population. This means we must have two versions of each lesson: one on diskette for use on the stand alones, and another one embedded in the management system designed for the PDP 11/70.

Implementation

All of these steps were vital to the crystallization of the project. It remained to convince other faculty members and administrators of its merit, which is not always an easy task when dealing with humanists, many of whom are reactionary vis-à-vis technology, especially when money is involved. It became apparent that the University was willing to provide personnel and material in support of the project but would not come up with any cold, hard cash for initial funding. We were forced to seek funds from outside sources. For the past two years we have been fortunate in receiving financial assistance from the Department of the Secretary of State (Canada). This raises the question of how to write a winning proposal. It is essential to state the desired outcomes and how it is intended to achieve them. The points outlined above (adjunct vs. mainline, tutorial vs. drill and practice, etc.) may serve as guidelines to departments when formulating requests for funding. Although an evaluation component has not been discussed here, it should be included in the proposal. At the University of Calgary, we have written evaluative measures into the project from its inception, but that is another story.

A different kind of support, equally important and just as difficult to obtain, is approval and acceptance from administrators and faculty, particularly those who might be asked to teach courses using the CAL programs. Academics tend to underestimate the need for staff development and publicity or perhaps they are too modest to blow their own horns. In any case, when it comes to institutionalizing a project, it is imperative to show what one has. Obviously one must first have something worthy of showing. Never underestimate the indifference,

or even resistance, of colleagues. One of ours (fortunately, not from the Romance Studies Department) declared that he would fight CAL with every ounce of his body. Since he was a corpulent gentleman weighing about 240 lbs, I considered this a challenge! Even with cooperative colleagues, problems occur in implementing the CAL programs. All personnel involved in the project must be educated as to the computer's capabilities. It is advisable to find out what the instructors want the computer to do and to avoid entirely upsetting their well entrenched habits. In our project, the teacher is expected to omit certain exercises from the text. Assuming that the computer can handle the drill effectively, the teacher is thereby free to concentrate on more communicative aspects of language. If students sense that the instructor does not consider the computer programs an integral part of the course (indeed, the same may be said of the language laboratory), CAL will be doomed from the outset.

Integrating the Program into the Curriculum

We are currently looking at different ways of integrating the CAL programs into the introductory French language courses. There are two ongoing experiments referred to for lack of a better term, as "in addition to" and "instead of". In the former approach, two groups of approximately 75 students each are being pre-tested and post-tested. The experimental group is encouraged to use the CAL programs in addition to their regular course work in view of enhancing the quality of instruction. The control group does not have any CAL. In the other approach, students will also undergo pre- and post-tests. The experimental group uses CAL as part of the course load: they receive 325 minutes less contact time with the instructor than does the control group. In this case, the use of CAL is quasi-mandatory and aims at cost-effective as well as quality instruction. Complete results will be available in April, 1982. Some interim findings are nonetheless of interest. In our pilot project which ran from January to March, 1981, we encountered three main problems. First, there was a shortage of courseware. We were unable to complete all of the CAL lessons in time. In fact, only nine of the 14 projected topics were in operation on the computer. Second, there were systems problems. Due to the pressure of time, the management system had not been thoroughly debugged and some initial records were lost. Third, there was insufficient staff development. As this trial run used

the "instead of" approach described above, we should have better integrated the CAL lessons into the coursework. This would have required spending more time with the instructors to familiarize them with the CAL programs and to determine precisely which material should be dropped from the textbook in order to compensate for work done on the computer. We are reasonably confident that all of these matters will be remedied before replication of the experiment.

Despite these difficulties, student reaction to the pilot project was very favorable. On an open-ended questionnaire, only six of the forty-eight respondents felt negatively about the concept of CAL. The vast majority (37 out of 48) expressed positive feelings towards CAL. The words "enjoyable" and "helpful" and their synonyms ("fun", "useful", "valuable", etc.) were used most frequently to describe the experience. Some students appreciated being able to learn at their own pace. Students were also asked if CAL had affected how they felt about French. None of the respondents indicated that their attitudes toward French had changed for the worse after taking the course. Most indicated that their feelings toward French were unchanged and a few indicated that their enthusiasm for French had increased. Some enjoyed the variety provided by the computer exercises, saying that they "spiced up the course". As respondents addressed a wide range of issues making it difficult to tabulate, the following classifies their perceptions under the general headings: positive, neutral and negative. At the same time, it allows the students to have the last word.

SOME COMMENTS ON COMPUTER ASSISTED LEARNING

POSITIVE

- "Enjoyed computer lessons"
  "Fairly good, easy to use"
- "Very useful; could be incorporated into lab; would be nice to work with audio and visual together"
- "Provided good practice on pronouns; expanded my French vocabulary"
- "Experience quite valuable; could be continued"
- "Good idea as supplement to classroom instruction"
- "Enjoyed computer lessons"

- "Helped to break monotony; makes French more interesting"
- "Program needs repairs, but on the whole, good· incorporate more computer assisted courses"
- "A great exercise; wish I had it offered in other courses. Overly simple, sometimes boring"
- "Enjoyed using computer"
- "Personnel in computer room very helpful and friendly"
- "Valuable"
- "A great assistance to my knowledge of French writing"
- "One could learn at their own pace; computer didn't demand an immediate answer as instructor did. Enjoyable and relaxing."
- "Assistance was very helpful and patient. Would have liked to learn to set up computer independently, so that I could go in on my spare time."
- "Interesting and informative"
- "Good practice, and some things I missed in class were explained. It was relaxed; could go at my own speed."
- "A benefit to me; learned a lot of new words"
- "Really liked 'acknowledging' responses. I think computer instructed courses are very valuable; a positive way to expand on instructor input."
- "The learning of any language requires drill. The computer assisted instruction aided in this aspect for the written form."
- "The computer helped significantly with my French grammar.

NEUTRAL

- "Possibly of some assistance – considered it a "fun" thing rather than something of great value"
- "Could have been more difficult; could have been more thorough for review; should be used only as aid; makes learning more fun"
- "Helpful if computers were more accessible. When home computers become commonplace, take-home programs will be invaluable."
- "Computer assisted instruction only helped because it was required that I put in time drilling on computers. Would rather have spent half hour per week speaking French to a monitor. Written practice was definitely beneficial."
- "It has its place. Used properly, this form of instruction could be very useful.
- "I think the drill can be useful, but personally I benefited more from classroom instruction. Liked working with computers when

there were no mistakes in programming. Found it frustrating trying to figure out how computer *wanted* me to answer... not necessarily the *only* correct response."
- "Quite friendly, encouraging. Often frustrating in that it moved slowly. Problem – no way to go back to word list or grammar explanation."
- "Instruction on computer was good, but it was presented too slow, and as a result, it had a kind of tediousness."
- "CAI adds variety to learning French. I don't know if it is that *effective* in improving comprehension skills, etc."
- "I found the instruction a help in the way of review. Learning, I found, was not a process involved. I was doing a lot of guesswork. It helped in the way of extra study."

NEGATIVE
- "It was not too effective for French, more frustrating than helpful; doesn't give me a very good opinion of computer assisted instruction."
- "A waste of time".
- "Instructions were vague (to me). I understood parts of the instructions, but when you had to press certain numbers, it was a little confusing."
- "This instruction is fine if time is limited. I think we need an instructor for more time than we need a computer."

REFERENCES

Hallworth, H.J., & Brebner, A. *Computer assisted instruction in schools: Achievements, present developments and projections for the future.* Edmonton: Alberta Education (Planning & Research), 1980.

Jones, A., & O'Shea, T. *The role of CAL in the open university.* Paper presented at the Symposium on Computer Assisted Learning, Leeds, U.K., April, 1981.

Kenner, R., & Richards, G. *In-house development of a computer assisted learning system for the language lab – the experience at Concordia University.* Workshop given at the Concordia Colloquium of Language Laboratories, Montreal, July, 1981.

BIBLIOGRAPHY

Hallworth, H.J., & Brebner, A. *Computer assisted instruction in schools: Achievements, present developments and projections for the future.* Edmonton: Alberta Education (Planning & Research), 1980.

Holmes, G. A contextualized vocabulary learning drill for French. *Computers and the Humanities*, 1980, *14*, 105-111.

Kidd, M. L'ordinateur et l'enseignement du français au Canada. Paper presented at the meeting of the Learned Societies, London, Ont. May, 1978.

Kidd, M., & Holmes, G. Realizing the potential of the computer in the learning of modern languages. *Proceedings of the Third Canadian Symposium on Instructional Technology*, 1980, 263-268.

McEwen, N. Computer-assisted instruction in second-language learning: An Alberta project. *The Canadian Modern Language Review*, 1977, *33*, 333-343.

McEwen, N., & Robinson, A. French retention: Combined classroom – CAI versus classroom instruction only. *Proceedings of the Canadian Computer Conference*, 1978.

Taylor, H.F. Computer based education as a learning tool for foreign language students. *Proceedings of the Annual Convention of the Association for the Development of Computer-based Instructional Systems*, 1979, 203-211.

———— Students' reactions to computer assisted instruction in German. *Foreign Language Annals*, 1979, *12*, 289-291.

Warner, T.D. CAI at the University of Akron: Course development. *Proceedings of the Annual Convention of the Association for the Development of Computer-based Instructional Systems*, 1979, 219-235.

Donna Mydlarski holds a joint appointment as Associate Professor in the Faculty of Continuing Education and the Department of Romance Studies, Faculty of Humanities, at the University of Calgary. Her main interests and research are in the areas of second language methodology, adult education and distance learning. She is the project leader of FLIC (French Language Instruction by Computer) which started in Calgary in 1979. She is currently the Director of the University of Calgary's French Centre.